

ASSESSING THE EFFORTS OF NGOs IN CYCLONE DISASTER MANAGEMENT IN BANGLADESH



A Dissertation for the Degree of Master in Disaster Management

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ABSTRACT

Whenever disasters strike, they do not discriminate or differentiate - they cause havoc and distress. They strike countries' rich and poor affect both men and women, old and young and cause destruction leaving behind a trail of devastation and irreparable losses. When these hazards strike, the communities are the first to react, irrespective of their profession, status, cast or culture. NGO's are Non-profit organizations or associations of private citizens with a common interest to assist the disaster affected people. The role of NGOs, especially with relief and rehabilitation programs, during and after disasters is to complement governmental efforts in Bangladesh. In principle, NGOs are responsible to assist the government in implementing national programs successfully. This study aims to assess the efforts of NGOs in cyclonic disaster management in Bangladesh. Coastal belts as cyclone disaster prone areas were included mostly for analysis. Study focused on response, recovery, rehabilitation, and affected community people. CARE Bangladesh, BRAC, and Muslim Aid Bangladesh were included mainly for the study. Data were collected based on secondary sources. Both qualitative and quantitative research approach were applied for the study. The study showed that about 20% of the assistance to emergency response, recovery, and rehabilitation during 1970 cyclone disaster was ensured by NGOs both national and internationals and it was more than 40% in 1991 cyclone disasters. Role of CARE Bangladesh, BRAC, and Muslim Aid Bangladesh to SIDR disaster management especially with emergency response, recovery, and rehabilitation activities was significant. CARE Bangladesh focused its response activities in four of the most affected upazilas in Bagerhat and Barguna districts. BRAC responded to the devastation in 30 upazilas (sub-districts) of 9 cyclone-Sidr affected districts of Southern Bangladesh. Muslim Aid Bangladesh focused its response, recovery, and rehabilitation activities intensely in three of the four worst affected areas (Bagerhat, Patuakhali, and Pirojpur). Presently, NGOs are giving emphasis on work with preventive measures as a strategy of disaster risk reduction.

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ABBREVIATIONS

ADB	Asian Development Bank
BMD	Bangladesh Meteorological Department
BRAC	BRAC
CARE	CARE
CDMP	Comprehensive Disaster Management Program
CFW	Cash For Work
CORR	Chittagong Organization for Relief and Rehabilitation
CPP	Cyclone Preparedness Program
CRS	Catholic Relief Services
DAE	Department of Agriculture Extension
DRR	Disaster Risk Reduction
ECHO	European Commission for Humanitarian Aid
EPP	Emergency Preparedness Plan
ERT	Emergency Response Team
HAF	Humanitarian Accountability Framework
IDB	Islamic Development Bank
IRW	Islamic Relief Worldwide
JTWC	Joint Typhoon Warning Center
MFDM	Ministry of Food and Disaster Management
NDMAC	National Disaster Management Advisory Council
PNGO	Partner Non-governmental Organization
SOD	Standing Orders on Disasters

Chapter 1

INTRODUCTION

Whenever disasters strike, they do not discriminate or differentiate - they cause havoc and distress. They strike countries rich and poor affect both men and women, old and young and cause destruction leaving behind a trail of devastation and irreparable losses. When these hazards strike, the communities are the first to react, irrespective of their profession, status, cast or culture. NGO's are Non-profit organizations or associations of private citizens with a common interest to assist the disaster affected people.

The country has been subjected to frequent natural disasters in many forms, particularly cyclonic storms and tidal surges, while floods are an annual event. From 1797 to 2007, 69 major cyclone storms and tidal surges have been reported (Tod 2008). These indicate that Bangladesh is prone to frequent destructive tropical cyclones associated with tidal surge, particularly in pre-monsoon months of April-May and post-monsoon months of October-November. The low-lying coastal areas are particularly vulnerable, thus placing these population, infrastructure, agriculture, livestock and economic development in a high-risk situation. Cyclone disaster mitigation is a major concern in Bangladesh.

There has been a paradigm shift in our approach to disaster management during the last one decade. The shift is from a relief centric approach to a multi dimensional endeavor involving diverse scientific, engineering financial and social processes to adopt a multi disciplinary and multi-sectoral approach with stress on building up capabilities of community to enable them to work towards their own risk reduction, in one phrase from relief and response to preparedness and adaptation. The role of NGOs in this context therefore **assumes** added significance.

The NGOs were focused in playing key roles in the immediate aftermath of disasters by extending assistance in emergency response, rescue and first aid, sanitation and hygiene, damage assessment and assistance to external agencies bringing relief materials (Begum 2004). During the post disaster phase, the NGOs played important roles by providing technical and material support for safe construction, revival of educational institutions and restoration of means of livelihood and assist the government in monitoring the pace of implementation for various reconstruction and recovery programmes (Leaf 1997).

1.1 Background: Cyclone disaster and management in Bangladesh

1.1.1 Cyclone and Coastal Environment

The coastal areas of Bangladesh (710 km long) are of recent origin formed out of the process of sedimentation. Most parts of the area are, therefore, low lying which can be subject to inundation even under ordinary circumstances of tides. A tidal surge accompanied by a cyclone storm makes the situation alarming which is further exacerbated by the triangular shape of the Bay of Bengal. The wide shallow continental shelf is conducive to amplification of surges causing wide spread flooding.

The human settlements in the coastal areas are mostly developed in an unorganized and isolated manner, primarily due to population pressure. In such a situation, community efforts to cope with disasters become extremely difficult.

There **are certain environmental conditions which lead to development** of cyclones making **the coastal human settlements vulnerable to destruction.**

1.1.2 November 1970 Cyclone

The 1970 cyclone was a devastating tropical cyclone that struck East Pakistan (now Bangladesh) and India's West Bengal on November 12, 1970. It was the deadliest tropical cyclone ever recorded, and one of the deadliest natural disasters in modern times. Up to 500,000 people lost their lives in the storm, primarily as a result of the storm surge that flooded much of the low-lying islands of the Ganges Delta (JTWC 1970). Total loss was estimated at US\$490 million for all sectors. This cyclone was

the sixth cyclonic storm of the 1970 North Indian Ocean cyclone season, and also the season's strongest, reaching a strength equivalent to a Category 3 hurricane.

1.1.3 April 1991 Cyclone

The cyclone which struck Chittagong, Bangladesh on the night of 29-30, April, 1991 was particularly severe causing widespread damage, killing 138,882 people (Garry 1999). There was massive damage to life support systems as well as private properties. Total loss was estimated at US\$2.07 billion for all sectors.

1.1.4 November 2007 Cyclone SIDR

Cyclone Sidr (Joint Typhoon Warning Center-JTWC designation: *06B*, also known as Very Severe Cyclonic Storm Sidr) was the strongest named cyclone in the Bay of Bengal. The fourth named storm of the 2007 North Indian Ocean cyclone season, Sidr formed in the central Bay of Bengal, and quickly strengthened to reach peak 1-minute sustained winds of 260 km/h (160 mp/h), which would make it a Category-5 equivalent tropical cyclone on the Saffir-Simpson Scale (Ball 2007). The storm eventually made landfall in south-western Bangladesh on the night of November 15, 2007. The storm caused large-scale damages and massive evacuations led to a significantly lower loss of lives, which the Government has stated to be 3,447 (Inquirer.net November 28, 2007).

1.1.5 May 2009 Cyclone Aila

Aila struck Bangladesh during mid-day of May 25, 2009 putting coastal people in severe danger. About half a million people had to leave their homes and go to temporary shelters when huge tidal waves came crashing with the 100 kmph (60 mph) wind. As this occurred during high tide, the impact was quite severe. But not everyone could move to safety on time. It was estimated that about 200 people died, 1,120 people are still missing and 200,000 people were trapped in water (Save the Children 2009). The misery of the affected people knows no bound. They did not have water to drink, as most of the sources of fresh sweet water were inundated by Aila, let alone food to eat. They did not have the place to bury their loved ones at that time, as most of the land was under water. They had to cross as much as 20 kilometers

to find a place for burial. Even if the water went away soon, people were confused about how they will get back on their feet, as they lost their assets.

Although it was forecast that there would be minimum damage on account of the low severity of the cyclone, but in reality the damage caused to the lives and properties was enormous due to high tide prevailing at that time. The entire coastal belt witnessed a human tragedy after the cyclone. Tidal surge swept away hundreds and thousands of homesteads, cattle, and standing crops. Ministers and high officials of the government and non-government organizations (NGOs), after visiting the affected areas, said that the damage on account of the cyclone 'Aila' is no less colossal than that of Sidr that had hit the coastal districts a couple of years ago. The total extent of the damage is still being assessed.

Damage to infrastructure in the coastal belt was also enormous . Cyclone `Aila' marooned a large number of people and their homesteads were submerged; significant damage occurred to roads and seedbeds. Various crops including paddy, jute, sugarcane and vegetables, livestock and fish production suffered badly.

The management of cyclone disaster provided valuable experiences to prepare for the future in order to minimize loss to life and property and restoring normal conditions at a faster pace. These were identified and reflected upon for lessons to improve cyclone warning and mitigation in Bangladesh.

1.1.6 Cyclone Warning System in Bangladesh

Bangladesh Meteorological Department (BMD) is the source of cyclone warning in Bangladesh. BMD generates the warning and passes this on to public media and preparedness **units** for dissemination and follow-up action at periodic intervals. There are separate warning system for maritime ports and river ports.

1.1.7 Standing Orders on Disasters (SOD)

The Standing Orders on Disasters (SOD), promulgated by the Government of Bangladesh (GOB) in November, 1985 and updated thereafter, constitute the basic plan for coping with disasters. SOD laid down the guidelines for action at various stages of disaster by all government and non-governmental agencies to cope with situation arising out of cyclone disaster. It is presently being updated to incorporate all new lessons learnt.

1.1.8 Institutional Arrangement

Being a disaster prone country, elaborate institutional arrangements are in place to deal with disasters, including cyclones. There are three committees and three institutions at the apex level namely National Disaster Management Council, headed by the Honorable Prime Minister, Inter Ministerial Disaster Management Committee headed by the Minister, Ministry of Food and Disaster Management (MFDM), National Disaster Management Advisory Council (MFDM), Disaster Management Bureau and Directorate of Relief and Rehabilitation. There are broad based Disaster Management Committees at the field level at district, upazilla and union headed by deputy commissioner, upazilla nirbahi officer and chairpersons for the respective areas.

However, the most dedicated agency for cyclone disaster information dissemination and mobilization at the coastal level is the Cyclone Preparedness Programme (CPP) and the Comprehensive Disaster Management Program, under the Ministry for Disaster Management. The CPP is an organization of large contingent of volunteers at the field who carry out the important function of mobilizing people at the community level to cope with cyclones.

1.1.9 Mitigation Measures

The vulnerability of coastal population to cyclones and accompanying surges called for various mitigation measures. Structural mitigation measures like cyclone shelters, killas, coastal embankment, improving housing conditions and non-structural mitigation measures like coastal afforestation, public awareness, community preparedness, local level contingency planning, social mobilization, emergency response, relief, and rehabilitation etc were included mainly during cyclonic disasters.

Government, communities at different levels, NGOs including local, national, and international levels were actively involved in providing their efforts with emergency response, recovery and rehabilitation activities to manage cyclonic disasters over the periods. Among international organizations CARE, Islamic Development Bank (IDB), United Nations, UNICEF, WFP and among non-governmental organizations World Vision, Catholic Relief Services (CRS), Islamic Relief Worldwide (IRW), Oxfam Australia. Muslim Aid, ASA, Proshika, BRAC were especially involved with relief and rehabilitation activities.

Comprehensive Disaster Management Program, with technical assistance of UNDP, is presently in operation for integration of disaster and development concept as well as for improvement in coordination between GO-NGOs' efforts in response to disasters at all levels.

1.2 Objective of the study

1.2.1 Broad objective

The role of NGOs, especially with relief and rehabilitation programs, during and after disasters is to complement governmental efforts in Bangladesh. In principle, NGOs are responsible to assist the government in implementing national programs successfully. This study aims to assess the efforts of NGOs in cyclonic disaster management in Bangladesh.

1.2.2 Specific objective

Specific objectives of the study are as follows:

1. To know the NGOs' status with relief and rehabilitation programs to cyclone (1970 and 1991) affected people.
2. To know the role of CARE Bangladesh in cyclone disaster management especially with response, recovery, and rehabilitation.
3. To know the role of BRAC in cyclone disaster management especially with response, recovery, and rehabilitation.
4. To know the role of Muslim Aid Bangladesh in cyclone disaster management especially with response, recovery, and rehabilitation.
5. To know the problems faced by NGOs in cyclonic disaster management

1.3 Methodology

1.3.1 Research type, area, focus, NGOs included, and data collection technique

Research type: Both qualitative and quantitative research approach were applied for the study.

Study Area: Coastal areas in Bangladesh are highly vulnerable to cyclone disaster. Coastal belts as cyclone disaster prone areas were included mostly for analysis.

Focus of the study: Study focused on response, recovery, rehabilitation, and affected community people. Cyclones in 1970, 1991, and 2007 (Sidr) were focused.

NGOs included: CARE Bangladesh, BRAC, and Muslim Aid Bangladesh were included mainly for the study.

Data collection technique: Data were collected based on secondary sources. Extensive literature review, analyzing reports, and documents, and observation were the major data collection methods. Structured checklist was used during data collection.

1.3.2 Objectives, **research questions**, and **methods**: A matrix

Specific objective	Major research question	Approach and methods
1. To know the NGOs' status with relief and rehabilitation programs to cyclone (1970 and 1991) affected people .	■ Were there sufficient NGOs' involvements with relief and rehabilitation programs during cyclonic disaster?	<ul style="list-style-type: none"> o Both qualitative and quantitative approach o Literature review o Secondary information o Reports and documents
2. To know the role of CARE Bangladesh, BRAC, and Muslim Aid Bangladesh in cyclone SIDR disaster management especially with response, recovery, and rehabilitation .	■ Were they involved especially with response, recovery, and rehabilitation activities in Sidr disaster management	<ul style="list-style-type: none"> o Both qualitative and quantitative approach o Literature review o Secondary information o Reports and documents o Observation
3. To know the problems faced by NGOs in cyclone disaster management .	■ Were there problems faced by NGOs in cyclone disaster management ?	<ul style="list-style-type: none"> o Reports and documents o Expert opinion o Management concerns

Chapter 2

FINDINGS

2.1 Evolving role of NGOs in cyclonic disaster management in Bangladesh: An analysis with reference to cyclones in 1970 and 1991

2.1.1 NGOs in cyclone disaster management focusing cyclone 1970 prior to Bangladesh

In spite of its wealth of natural resources, East Pakistan also had its share of sufferings. The study (McKinley 1979) shows that there were ten tidal waves in the coastal areas of Noakhali between 1960 and 1970. Floods and cyclone were common and the disparity between the poorest and those who benefited from the natural wealth increased with each calamity. Both governmental and non-governmental efforts towards cyclone disaster management were significantly maintained (Edwards 1999). However, prior to Bangladesh the contribution of international NGOs was most significant compared to national NGOs especially to cyclone disaster management as a very few national NGOs were existed.

The United Nations donated \$2.1 million in food and cash, whilst UNICEF began a drive to raise a further million (Halloran 1970). UNICEF helped to re-establish water supplies in the wake of the storm, repairing over 11,000 wells in the months following the storm (UNICEF 2006). UN Secretary-General U Thant made appeals for aid for the victims of the cyclone and the civil war in August, in two separate relief programs. He said only about \$4 million had been contributed towards immediate needs, well short of the target of \$29.2 million. By the end of November, the League of Red Cross Societies had collected \$3.5 million to supply aid to the victims of the disaster (McKinley 1979).

The World Bank estimated that it would cost \$185 million to reconstruct the area devastated by the storm. The Bank drew up a comprehensive recovery plan for the Pakistani government. The plan included restoring housing, water supplies and infrastructure to their pre-storm state. It was designed to combine with a much larger ongoing flood-control and development program. The Bank provided \$25 million of

credit to help rebuild the East Pakistan economy and to construct protective shelters in the region. This was the first time that the IDA had provided credit for reconstruction. By the start of December, nearly \$40 million had been raised for the relief efforts by the governments of 41 countries, organisations and private groups.

On November 20, 1970 the United Nations General Assembly passed a resolution that both expressed its sympathy to the Pakistani government and called on the UN specialised agencies and governmental and non-governmental organisations to help Pakistan with both its short-term relief and long-term reconstruction and development. This developed into a Cyclone Preparedness Program in 1972, which is today run by the Government of Bangladesh and the Bangladesh Red Crescent Society. The programme's objectives are to raise public awareness of the risks of cyclones and to provide training to emergency personnel in the coastal regions of Bangladesh (CPP 2007).

CARE established an office in Dhaka in 1962. In 1970 CARE sent relief to the victims of the cyclonic tidal wave which hit coastal areas in East Pakistan on 12-13 November, 1970 (Hailey 1999). By January 1971, CARE had reached an agreement to construct 24,000 cement brick houses at a cost of about \$1.2 million (1971 USD, \$6.1 million 2007 USD).

The Catholic agency CARITAS Pakistan had a branch in East Pakistan from 1967 but following the cyclone it was renamed Chittagong Organization for Relief and Rehabilitation (CORR) in November 1970. It reorganized and became a national organization called Christian Organization for Relief and Rehabilitation in January 1971 with several Cyclone rehabilitation projects.

These early history of CARE and CARITAS **illustrate how** the Cyclone of 1970, followed by **the collapse of the democratic process and the slide into** the Liberation War of Bangladesh **changed the economic and social circumstances of Bangladesh and brought into the international consciousness a picture of a nation in crisis.** They are also indicative of the way NGOs **adapted** to the **changing environment** in which they **found themselves.**

2.1.2 NGOs in cyclone disaster management focusing cyclone 1991 in Bangladesh

From its birth as an independent nation in 1971, Bangladesh became a site for Non Government Organizations. Initially focused on relief and rehabilitation activities following the War of Liberation and succeeding natural calamities, International and local NGOs turned their efforts to longer term development in the absence of state capacity to deliver welfare (Abed 1989).

The suffering of the Bengali people due to a combination the cyclone of 1970 and the political havoc that lead to the emergence of Bangladesh as an independent nation following liberation war from March to December 1971 prompted a massive response in multilateral, bilateral and non-government aid. In addition to the outside humanitarian organizations which responded, many local organizations were created to care for orphans and widows and assist the many refugees (Ahmed 2000) returning from neighboring India after the war ended. BRAC, the largest NGO in Bangladesh today, was formed in 1972 as the Bangladesh Rural Advancement Committee. Its early objective was to deliver relief and rehabilitation programmes for refugees returning from India to resettle in Bangladesh (BRAC 2004). The Lutheran World Federation is typical of the many international NGOs which provided assistance with relief and rehabilitation.

During the first years of Bangladesh's independence in December 1971, humanitarian agencies and media coverage were focused on the apparently overwhelming needs of a mainly rural population living on the edge of subsistence in a 'disaster prone' environment while the national infrastructure was still being reconstructed from the destruction of guerrilla warfare during the struggle for independence (Wood 1994).

A few Bangladeshi NGOs grew very substantially in the early 1990s with the help of 'large-scale donor support'. Most of them were involved with relief and rehabilitation activities to face cyclone disaster in 1991(Fernando 2003). NGOs' contribution to cyclone disaster management in 1991 was significant as the donors responded. The number of NGOs involved increased rapidly and the amount of international aid that came to NGOs was about US \$ 200 million in 1991 to face especially cyclone disaster (Stiles 2002). In the 30 years after the 1970 cyclone, over 200 cyclone shelters were

constructed in the coastal regions of Bangladesh in cooperation with both government at different levels and NGOs. When the next destructive cyclone approached the country in 1991, volunteers from the Cyclone Preparedness Programme warned people of the cyclone two to three days before it struck land. Over 350,000 people fled their homes to shelters and other brick structures, whilst others sought high ground. While the 1991 cyclone killed over 138,000 people, this was significantly less than the 1970 storm, partly because of the warnings sent out by the Cyclone Preparedness Program (WB 2006). However, the 1991 storm was significantly more destructive, causing 1.5 billion dollars in damage (2 billion inflation-adjusted) compared to the 1970 storm's 86.4 million dollars in damage (inflation-adjusted: 480 million).

NIRAPAD is an open coalition working in Bangladesh which was set up in 1997 in cooperation with CARE to bring information and strengthen the abilities of development organization and community to reduce disaster risk (Nobusue 2002). CARE Bangladesh along with its disaster management partner NGOs established the coalition. All 21 members under the coalition have been working in the high risk areas of Bangladesh since long to reduce the risk of disaster on livelihood security of vulnerable household. And, each of the member organization has included disaster management as an integral component of their ongoing development program and earmark resources in their annual budget.

A strategic plan was developed for NIRAPAD by its member organizations. The constitution and strategic plan clearly states the vision, mission, activities and management procedure of the network. NIRAPAD has an eight member steering committee that takes all the important decision to function it. NIRAPAD coordinator acts as Chief Executive Officer of the organization and by designation member secretary of the steering committee.

From the beginning, member organizations of NIRAPAD have subscribed to building a common fund. The member organizations continue to contribute to the fund on a yearly basis. However, future plan of NIRAPAD is to develop strategic partnership with different organization and institute, who have expertise in disaster sector. Also it is initiated to develop different training modules for developing expertise in DRR

(disaster risk reduction) with a special focus in climate change and to build ability to organize training program regarding disaster management for increasing resource base of the organization . It should be mentioned that BRAC University introduced certificate, diploma, and masters program on disaster management since 2002.

However, the government, NGOs, people and friends around the world worked together in minimizing the impact of the calamity through preparedness as mitigation measures as well as coping with the aftermath. The government and non-government organizations (NGOs) worked in a coordinated manner to bring relief to suffering people (Blair 2005). The task was too great and scope remained for improving the situation. Based on different studies and documents it was found that the role of NGOs in disaster management in Bangladesh was significant. The study (ADB 1999) showed that about 20% of the assistance to emergency response, recovery, and rehabilitation during 1970 cyclone disaster was ensured by NGOs both national and internationals and it was more than 40% in 1991 cyclone disasters. Presently, NGOs are giving emphasis to work on preventive measures as a strategy of disaster risk reduction.

2.2 Role of CARE Bangladesh in cyclone SIDR disaster management with regard to response, recovery, and Bangladesh



Focus

- **Significance and suitability:** Needs assessment, relief phase, recovery phase, and rehabilitation phase

Connection: CARE-B's strategy, working with CARE-B, working with PNGOs, working with Union Parishad, and working with communities

- **Coverage**
- **Efficiency**
- **Effectiveness**
- **Coordination**
- **Impact**

As we know that on 15 November 2007, Cyclone Sidr struck the southwest coast of Bangladesh and high winds and floods caused extensive damage to housing, roads, bridges, and other infrastructure. Electricity supplies and communications were knocked out, as roads and waterways were blocked. Drinking water was contaminated by debris and saline water from the storm surge, and sanitation infrastructure was destroyed. The cyclone caused 3,447 deaths and seriously affected about one million households. Estimated damages and losses were Tk 115.6 billion (US\$ 1.7 billion and mainly concentrated in the housing and productive sectors).

CARE Bangladesh (CARE-B) responded to the devastation caused by Sidr by planning and implementing the \$17.09 million Cyclone Sidr Response Programme to assist over 350,000 households to recover from the devastating affects of the cyclone. The Response Program comprised of \$10.37 million in funds and \$6.72 million in food items and was funded by 10 bi-lateral organizations and 2 UN agencies as well

as numerous private donors and different parts of CARE's international organization. The main activities of the Response Program were the provision of food items (FI) and non-food items (NFI), repair and new water supplies and sanitation facilities, hygiene education, and livelihood activities including cash for work (CFW). The Program was implemented in parts of Barguna and Bagerhat districts by partner non-governmental organizations (PNGOs) and direct delivery.

2.2.1 Significance and Suitability

Needs assessments: CARE-B developed their response strategy based on needs assessment prepared by CARE-B and PNGO staff and was designed with limited direct involvement of affected households. CARE-B along with most other non-government organizations concluded that the needs for relief (basic food and non-food items, water and temporary shelter) were so apparent that involvement of communities was not necessary.

Relief Phase: CARE-B addressed these needs of devastated households by providing FI and NFI packages as well as water. In Barguna, CARE-B made an opportune early intervention by distributing 1100 MT of food and non-food items from their Chittagong warehouse. CARE-B subsequently distributed FI and NFI packages in both Barguna and Bagerhat, where they also made an appropriate early intervention by providing four water treatment plants. The FI and NFI packages were appropriate and well received although the nutritional value and contents of packages varied and did not always meet humanitarian action standards. CARE-B also entered into partnership with Dhaka Community Hospital to organize 507 health camps for people suffering from Sidr-related injuries or health problems. CARE-B also introduced a psycho-social programme for the first time, and although the programme took some time to set up, the feedback was positive.

Recovery Phase: CARE-B provided about 1100 new houses in two upazilas of Bagerhat district but did not develop a comprehensive strategy for all SIDR victim shelter needs and shelter still continues to be a major need. Similarly, the Program provided funds to clean and rehabilitate the ponds and to repair or provide new pond sand filters and hand tubewells, but access to safe water remains a major need in

many of the Program's working areas. Sanitation needs were addressed by the provision of sanitary and hygiene kits; repair or provision of latrines and hygiene education. The sanitary and hygiene kits and hygiene education were well received, as were the new latrines although beneficiaries were concerned about the quality and the design of the facilities. CARE-B implemented livelihood projects, the main components of which were cash for works (CFW) for road repairing, homestead gardening and homestead platform raising, and funds to support fishermen (Tod 2008). The cash for works activities were very appropriate as employment was a major need after the relief phase.

Rehabilitation Phase: As there was a continuing need for improved water supplies and sanitation in Sidr-affected areas, the Program received additional funding for a new and larger WATSAN project to be implemented in Bagerhat during the rehabilitation phase. The new WATSAN project has the similar mix of activities to improve water supplies, sanitation, and hygiene awareness. In addition, CARE-B utilized funds to help the most vulnerable households in recovering their livelihoods and improving food security through cash for works, seed distribution and other input support.

2.2.2 Connection

CARE-B's Strategy: The Sidr Response Strategy included three phases and worked mainly in Barguna (relief and recovery phases) and Bagerhat (relief, recovery, and rehabilitation phases). CARE-B subsequently changed its strategy by delaying their exit from Barguna for two months because the PNGO needed the additional time to implement all activities it had committed to. The strategy for the Response Program followed a traditional approach to relief and recovery that was replaced by more participatory approaches.

Action with CARE-B: CARE-B activated the Emergency Response Team (ERT) and the more experienced CARE-B staff in the Team led the response. CARE-B managed the Response Program mainly with locally recruited staff, and with only limited inputs from international staff. The Assistant Country Director took overall responsibility for overseeing the CARE-B team that planned and implemented the

Response Program. Issues that caused particular challenges for CARE-B during implementation included information and financial management, support for Sidr Field Offices, budget tracking and staffing. Many of the challenges would have been avoided by CARE-B having an up-to-date Emergency Preparedness Plan (EPP). CIDA worked with CARE-B and introduced the Humanitarian Accountability Framework (HAF). The performance of the Response Program against many of the HAF benchmarks needed to be improved because the Programme was not designed to take into account the HAF and staff was not trained on the HAF or the related humanitarian action standards or guidelines. One suggestion is to have beneficiaries, or their representatives, participate in assessments, implementation, monitoring and evaluation, and in decision-making on determining project activities throughout the lifecycle of the Project.

Working with partner non-governmental organizations (PNGOs): CARE implemented the Sidr Response Program through nine PNGOs, four of which were based in Barguna and five in Bagerhat. Two of the PNGOs, RIC and Prodipan, were long-term partners of CARE-B. Three PNGOs, CODEC, SAP-BD and Uttaran, had previous experience of working with CARE and four PNGOs (RDF, Sangkalpa, Trust and Rupantar) were new partners. The new partners were selected through a process of consultation considering their mission and vision, activities, gender policy and also their involvement with the community. All the PNGOs are regional NGOs with experience of working in the natural hazard-affected areas.

However, none of the PNGOs had emergency preparedness plans and they were not prepared for the implications of the massive increase in expenditure required by the Response Program. CARE-B was not fully prepared for working with partners on emergency relief on the scale required. PNGOs viewed their partnership with CARE as valuable, useful and educative although the partnership did not work with two organizations. PNGO performance was constrained by several factors including high turnover of staff, limited experience of rigorous financial management and overstretched staff and other resources. The PNGOs did manage to meet many project outputs within the allocated budgets, although some of the quality of some outputs declined when market prices of key materials increased more than was expected. The PNGOs voiced several issues about their partnerships with CARE-B including the

lack of involvement in preparation of budgets and programme design, strict procedural requirement, limited time for implementation of tasks and limited provision for overheads and office expenses. Monitoring of PNGO activities was a sensitive issue and, although PNGOs found that the monitoring helped to improve the quality of their work, they also found that some monitors were insensitive, inexperienced and poorly trained. Joint monitoring was tried but was unsuccessful due to lack of resources and management interest.

Working with Union Parishads: Union parishad members helped the implementation of the Response Program by providing information and lists of vulnerable households but the potential capacity of the UP to contribute to the Response Programme was not fully utilized and this led to duplication and faulty targeting. There is scope to improve the sustainability of the emergency response activities by increasing the involvement of union parishads.

Working with Communities: CARE-B needs to involve Sidr-affected communities more in the formulation of their Response Program, and, during implementation, community involvement was very limited. Communities are highly interested in long-term impacts of activities as well as the need to meet short-term requirements. However, the long-term requirements for ensuring the sustainability of water supplies and sanitation activities were not fully considered during implementation.

2.2.3 Coverage

CARE-B focused its response activities in four of the most affected upazilas in Bagerhat and Barguna districts. CARE-B's focus on Bagerhat was in part because they previously worked in Bagerhat with two long-term PNGOs. The process of selecting specific work areas within the selected upazilas was not straightforward and required negotiations with many actors as many government and non-government organizations were also trying to identify working areas.

Within their working areas, CARE-B targeted the most vulnerable households for project inputs, by identifying households that met specific criteria such as women headed households and ethnic and religious minorities. There are no data to show how

many households in CARE-Bs working areas qualified under each criterion or the percentage of qualifying households received relief packages from CARE-B. Unintended consequences of the selection criteria included providing less vulnerable households with more nutritious food packages and excluding vulnerable households from some Program activities. Two targeting issues need further investigation: the consequences of providing relief to an 'average' household and the requirement for women beneficiaries to collect relief goods. The distribution of relief and recovery activities was also widely variable.

2.2.4 Efficiency

Analysis of the budgets indicates that about 8 percent of funds were used during the relief phase, while 71 percent were used during the recovery phase and 21 percent during the rehabilitation phase. Food items (FI) made up 47 percent of the total funds, non-food item about 5 percent, cash for works and livelihoods about 8 percent, WATSAN about 8 percent, shelter about 10 percent and multi-purpose cyclone shelters about 3 percent. The remaining funds, about 19 percent, were used to deliver the Program activities to the beneficiaries. The utilization of funds (or the burn rate) for 10 completed projects was on average about 90 percent. Until the end of May 2008, PNGOs utilized about 33 percent of the total Program spending, while 67 percent were utilized by CARE-B. CARE-B's spending includes the costs of delivering the overall Program including such items as preparing proposals, liaising with donors, monitoring, financial management, auditing etc. The pattern of expenditure indicates that a significant portion of project activities was delivered by direct delivery.

Funds were carefully controlled in the field by imposing a rigorous financial management system and by setting up a separate monitoring system. The financial management and monitoring systems were successful in ensuring the soundness of Program implementation. Many UP chairmen and members remarked that they found the CARE-B system to be very transparent. Factors that strained the financial management systems included limited availability and fluctuating prices of items in local markets, high staff turnover, collection of VAT by PNGOs and shortage of

vendors. CARE-B needs to prepare an operational guideline for working with PNGOs in emergencies.

Partial monitoring of FI and NFI distribution started in December 2007. Extensive onsite monitoring and systematic analysis started in January 2008 with monitoring of the performance of distribution centers during the 2nd round of WFP food distribution. The main findings of that monitoring were that the distribution was generally satisfactory although there were some issues including centers being open after dark and for long hours, variation in the weight of rice in packages, and inadequate toilet and water facilities for women. CARE-B worked with the PNGOs to improve the performance of distribution centers, and the results of the monitoring of the 3rd round distribution were better (Tod 2008).

2.2.5 Effectiveness

The Response Program achieved its goal by achieving or exceeding the targets during each phase including during the relief phase by distributing FI to 67,252 households and NFI to 57,252 households, providing safe water to 30,695 households, and providing medical treatment to 63,567 patients (Tod 2008). During the recovery phase, food packages were distributed to 92,389 households and NFI to 27,458 households. WATSAN projects, livelihoods and CFW are still being implemented, but the available data showed that by the end of May 2008, there were about 134,000 beneficiaries from WATSAN activities in Barguna and 111,280 beneficiaries in Bagerhat. During the Rehabilitation Phase, there was a target of 40,000 households benefiting, but targets were not given for specific activities.

The Response Program made only one intervention designed to benefit a specific interest group that is the provision of boats and nets to fishermen, but the intervention had limited impact. There is an opportunity for CARE-B to provide this long-term support to the Program's relief and rehabilitation activities through PNGOs at a relatively low cost as the PNGOs are working in the field on other activities in both CARE-B upazilas in Bagerhat.

2.2.6 Coordination

The UN was only partially successful in leading the donors' response to cyclone Sidr for several reasons including delays in preparing needs assessment and delays in establishing the cluster system for emergency response. The performance of the clusters was very variable, with the WASH Cluster being the most successful. The shelter cluster was much less dynamic, and took months to provide advice on suitable replacement of rural housing. Coordination between local non-government organizations and between international non-government organizations was weak.

2.2.7 Impact

Communities in areas most affected by Sidr received support in their relief and recovery in many different ways and from many different donors, and it is not possible, except for a few activities, to separate out specific impacts from CARE-B's activities from the activities of all the other government, non-government and private organizations that were providing relief after Sidr. In addition, the Programme did not collect baseline data on which impact assessment could be based or undertake impact assessments during the relief and recovery phases. During the rehabilitation phase when impact monitoring received more attention, but, data are still being processed and analyzed.

A notable feature of the post-Sidr period was the absence of epidemics of diarrhea and water-borne illnesses that often follow such disasters. The reasons for the limited outbreak of such diseases are due in part to the efforts to provide safe water quickly, combined with rapid distribution of relief food and basic shelter materials.

Other impacts of specific Response Program activities included raised awareness from hygiene education, rapid medical assistance for people wounded during Sidr or suffering from Sidr-related illnesses, complaint boxes at distribution centers, employment from CFW, added nutrition from homestead gardening, helping young people by distributing educational materials. In addition, CARE-B led by example in organizing and distributing food to Barguna within ten days after Sidr. This put pressure on other non-government organizations to expedite their relief activities. Negative impacts of Programme activities included the demand employment through

CFW exceeded what was available, homesteads without space for a garden were excluded, low rate of germination of vegetable seeds provided for homestead gardening during the 1st round distribution, cladding used for housing latrines may not last more than one monsoon season, and access to safe water and weather-proof shelter remain major needs in the Response Program areas.

2.3 Role of BRAC in cyclone SIDR disaster management with regard to response, recovery, and rehabilitation

Focus

- **Relief and rehabilitation program areas**
- **Needs assessment**
- Beneficiaries**
- **Relief and recovery**
- **Rehabilitation**
 - i. **Agriculture based livelihood rehabilitation**
 - ii. **Non-agriculture based livelihood rehabilitation**
- Structural measures: Core house and cyclone shelters**
- Y Outcome**
- External cooperation: An implementation device**

2.3.1 Relief and rehabilitation program areas

BRAC responded to the devastation caused by Sidr with relief, recovery, and rehabilitation activities in 30 upazilas (sub-districts) of 9 cyclone-Sidr affected districts of Southern Bangladesh (Figure 2.1).

2.3.2 Needs assessment

A need assessment survey was carried out by BRAC in December 2007, just after cyclone SIDR hit the Southern Bangladesh. The findings of the initial assessment were updated with the results of a second assessment conducted by BRAC in April/May 2008.

2.3.3 Beneficiaries/target groups

The beneficiaries/target groups of the project were cyclone SIDR affected farmers, livestock rearers, fishermen, homestead owners, rickshaw van pullers, small business owners and day laborers. The selection were done using a positive discrimination towards families with women headed households, vulnerable children, disabled, elderly with no income earning household **earners**, ethnic minorities and other socially excluded groups. The total number of direct beneficiaries was estimated at 424,024 households. These include agricultural workers particularly women who will be provided employment for 730,981 person-days under "Cash for Work" program for infrastructural development or maintenance activities. The members of the targeted

households are expected to benefit directly from the interventions aimed at the rehabilitation of their pre-SIDR livelihoods. The wider community is expected to benefit indirectly through the benefits of economic recovery and service provision.

The groups of cyclone SIDR affected livelihoods were targeted for rehabilitation programs are rice farmers, maize farmers, vegetable farmers, betel leaf growers, nursery owners, livestock rearers, homestead owners, rickshaw van pullers, small business owners and day laborers.

Human resources

BRAC recruited all of the staff at different levels, and deployed both new and experienced staff to the respective offices in June 2008 as per contract of the project. BRAC has followed the recruitment policy and procedure of equal opportunity employment for the recruitment of the new staff.

2.3.4 Relief and recovery activities

BRAC addressed the needs of devastated households by providing emergency food and dry food packages to about 185,000 families just after Sidr. Blanket and cloths were distributed among about 41,000 and 120,000 households respectively. Arrangement of safe water to about 70,000 households using water purification tablets, treatment to about 37,000 households, safe sanitation to about 22,000 households was ensured on emergency basis. As of October 2009, a total of 246 pond sand filters (PSF) were renovated and another 229 PSFs were newly constructed. Under ground water through deep tubewell is one major source of safe drinking water. In the affected areas BRAC installed 200 deep tubewells. Nutrition supplement was ensured among about 85,000 families focusing child, pregnant, and lactating mothers. Employment was ensured for about 930,000 man-days under cash for work programme. Besides, BRAC provided 1302 new houses and repaired 2645 houses as of October 2009.

Figure 2.1: BRAC rehabilitation program areas

BRAC Rehabilitation Programme Districts

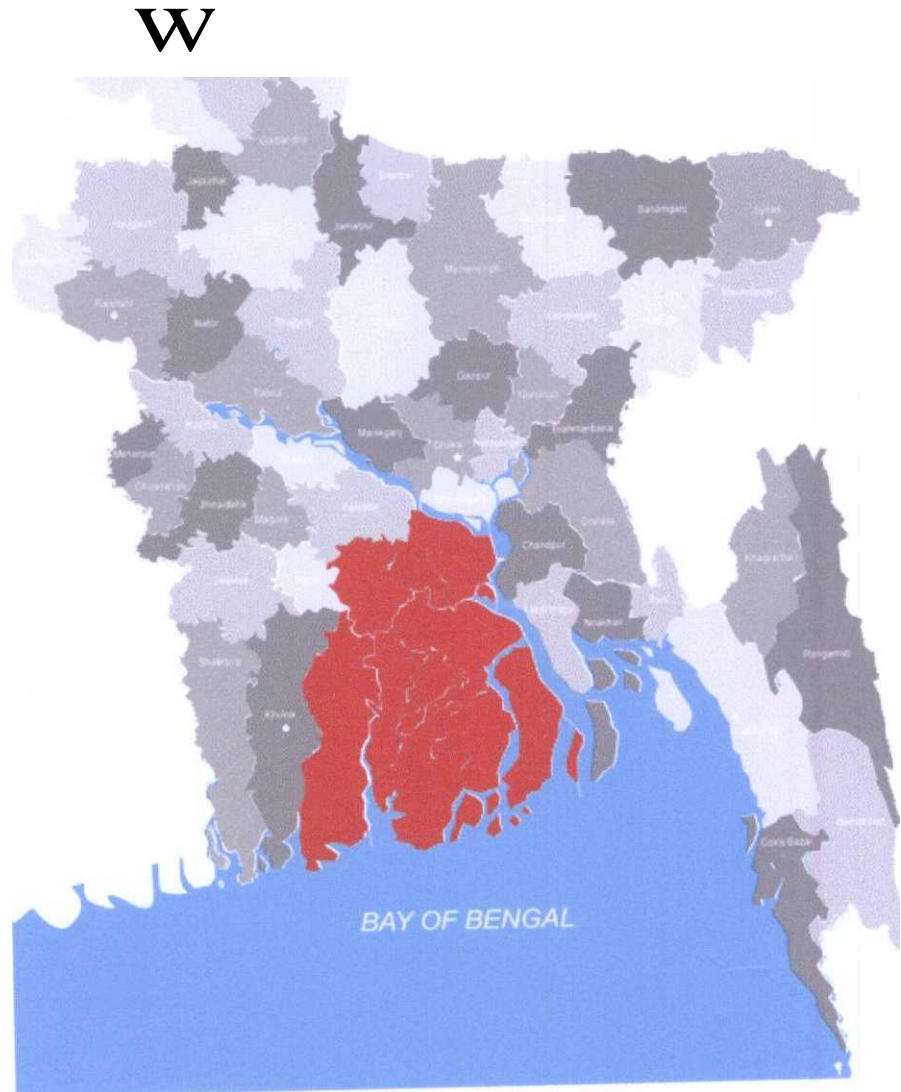


Table 2.1: SI DR affected areas of the southern Bangladesh where BRAC worked.

Division	District	Unazila (Sub District)	No. of Upazila District^
Barisal Division	Barguna	Amtali Bamna Barguna Sadar Betagi Patharghata	5
	Barisal	Bakerganj Barisal Sadar	2
	Bhola	Bhola Sadar Burhanuddin Char Fasson	3
	Jhalokati	Kathalia Rajapur	2
	Patuakhali	Bauphal Dasmina Galachipa Kalapara Mirzaganj Patuakhali Sadar Durnki	7
	Pirojpur	Bhandaria Kawkhali Mathbaria Nazirpur Pirojpur Sadar	5
Khulna Division	Bagerhat	Kachua Morrelganj Sarankhola	3
Dhaka Division	Gopalganj	Kotalipara	1
	Madaripur	Madaripur Sadar Shibchar	2

2.3.5 Rehabilitation

In general, progress was steady in implementation of the different agricultural and non-agricultural components of the project.

i. Agriculture-based livelihoods rehabilitation

Rehabilitation : Rice production

Following the selection of affected rice farmers in more or less contiguous blocks, the beneficiaries were provided, by installment, with seeds, fertilizers and tillage services for land preparation, irrigation and for other cultural activities up to the maximum of Tk 5,000 per acre. Seeds and fertilizers were procured locally from reliable dealers, following BRAC procurement rules. Where suitable growing conditions prevail, the beneficiaries were provided the hybrid rice seeds, along with seeds of high yielding varieties of rice that farmers usually cultivate in some areas of the Sidr affected districts. Innovative methods and new crop varieties were experimented along with traditional rice farming practices since farmers responded to innovation during crisis, and BRAC's **aim is** to make an impact that goes beyond the restoration of the pre-SIDR livelihoods.

In several instances, beneficiary farmers opted to hire power tillers for land preparation from tiller owners who obtained the power tiller through a loan under BRAC's regular Microfinance program and the post-SIDR rehabilitation program implemented earlier. An agricultural intensification and diversification program with BRAC own fund was implemented to increase food production as well as to minimize the effect of rising food prices on household level food security. The project supplied agricultural equipment whose services were rented by beneficiaries under the present project. BRAC helped in land preparation activities to increase rice cultivation area in Aman season. Payments for rice inputs was made to beneficiaries of 275 acres of lands in October 2009 (Table 2.2) and a cumulative of 70,098 acres (more than 100% of the target-Figure 2.2) was grown to rice up to the reporting month (October 2009).

Rehabilitation : Maize production

BRAC selected some farmers in the Sidr affected areas to introduce hybrid maize for human consumption as well as for poultry feed. The selected maize farmers were provided with seeds, tillage service for land preparation, irrigation and fertilizers to the maximum TK 5,000 per acre. The farmers procured fertilizers from locale dealers.

BRAC started hybrid maize seed distribution from October 2008 and were able to fulfill the target by March 2009. Input supply such as seed and fertilizer, land preparation and irrigation supports were subsidized to plant hybrid maize to about 17,529 acres of land within February 2009, which was more than the target, 17,500 acres (Figure 2.2). But some farmers cultivated maize in March 2009 amounting 29 acres of land, included in the report as the achievement of March 2009.

Rehabilitation : Vegetable/fruit production

Generally the farmers cultivate various fruits and vegetables in the winter as a source of livelihood. In most cases these activities are conducted in the homestead areas by the landless and marginal landowning households, and the work is done by women members in between their domestic activities. Due to the catastrophic impact of the cyclone Sidr, the standing crops of bitter melon, spinach, squash, radish, carrots, okra, pumpkin, cauliflower, and cabbage were destroyed. The impact was felt severely by the marginal and small farmers who were struggling to survive.

To assist in rehabilitation, BRAC provided Tk. 4,000 per acre to 16,546 beneficiaries for vegetable cultivation in October 2009 (Table 2.2) and cumulative of 194,988 marginal and small farmers up to the reporting period. The area coverage in October 2009 was 5,162 acres and cumulative coverage of about 31,213 acres of land (about 97.5% of the revised target-Figure 2) for growing seasonal vegetables since the start of the project. The grants were given to women, the reason being that women are the main cultivators of vegetables and this will empower them in proper decision making and allocation of the funds. With this support, the farmers were able to prepare their land, purchase fertilizer and seeds. BRAC included the tribal groups residing in the Patuakhali district for vegetable cultivation and hope that these efforts will in some ways relieve the vegetable farmers of their current hardships.

Rehabilitation: Betel leaf production

Historically, it was found that the Hindu communities (Baroi) in the greater Barisal region engaged in cultivating betel leaves as a source of livelihood. The Muslims are not usually engaged in this activity. Betel leaf farmers were also severely affected by cyclone Sidr. BRAC completed the target by August 2009. Most of the beneficiaries have already started selling betel leaf to recover pre-Sidr livelihoods.

Replacement: Lost goats

Goat rearing is an integral part of many farming systems in Bangladesh. It provides meat, hide, milk and manure. It is an important source of income for the poor, and is often used as a form of savings by the landless and women farmers. The sale proceeds of goats help them tide over unforeseen crisis that demands immediate cash for example medical expenses. To support livelihood rehabilitation in these areas, BRAC provided 536 goats to 268 women in March 2009 with the cumulative figure of 4000 goats to 2,000 women, achieved 100% target by end of March 2009. Almost all the goats gave birth to 2-3 kids and it is considered as a quick rehabilitation component.

Replacement: Lost cows

Dairy farming was a major source of income for the poor men and women that were demolished by the devastating cyclone, Sidr. BRAC provided Taka 10,000 to each affected woman for purchasing the cow and construction of the shed. The price of cow was higher than the amount of grant received by the women. Since the grant was inadequate to purchase adult animal, BRAC provided heifers of 2.0- 2.5 years of age that will take 1.5-2.0 years to give birth a calf and produce milk. Therefore, it will take time to generate income for the households through this activity. It was observed that the cows purchased from the northern regions of Bangladesh suffered from diarrhoeal diseases drinking saline water and grass grown in salt affected soils. To overcome this unhealthy environment for the animals, BRAC decided to purchase the calves from the southern region to distribute among the beneficiaries under the current project for better adaptation of the animals with the local environment.

In October 2009, BRAC provided 2,334 cows (Table 2.2) to women from low-income households and a cumulative of 15,894 cows (about 99% of the revised target-Figure 2) and cash for construction of cow shed. The cows were also given to those women

who previously worked for the "cash for work" component. The women were very poor and have no alternative livelihoods after the completion of the cash for work activities.

We provided them a cow each so that they can foresee a good future in absence of the rehabilitation programme. BRAC is providing and will continue to provide artificial insemination (AI) through their AI program to all the supported cows. The cows were provided preventive cares and will be administered injections preventing common diseases and follow-up services under BRAC's on going Poultry and Livestock Program in the locality. We observed that 5-10% of the cows gave births a calf and the beneficiaries were benefited having milk for their children. A portion of the milk is also sold by some beneficiaries to meet some essential requirements.

Seed . for fodder production

The animal feed is very scarce in the coastal environments. Therefore, to sustain animal production (especially cow and goat) and to restore the livelihood of the rears, BRAG decided to provide the seeds of improved fodder to grow in the Sidr affected areas of the country. BRAG distributed 5,204 kg of fodder seeds in March 2009 with the cumulative value of 47,982 kg fodder among the farmers to produce animal feed in their lands. Although the total budget was the same, the amount of fodder seed distributed was more than the target.

BRAG also distributed maize seed to cultivate as fodder crop. The price of maize was less than the sorghum fodder seed. For this reason BRAG were able to distribute more fodder seed than the original target (37,320 kg). Many cow rears expressed their willingness to cultivate fodder for their milking cows.

Replacement of destroyed fishing boats and nets

The fishermen were greatly affected by the Sidr. They lost their boats and nets due to the devastating cyclone. BRAG decided to provide livelihood improvement support to the fishers like the crop farming. BRAG identified the victims and following the selection of affected small fisher groups, the leader of the group was given up to a **maximum** of Tk 20,000 to cover the manufacturing of a fishing boat and purchase of fishing nets and other accessories necessary for fishing. The fishers provided the matching support in the form of their own labor for construction of boats and in some

making fishing nets on their own using female labor. The boats were made cases, from locally available wood, harvested from trees fallen during the cyclone.

BRAC provided 200 boats and nets to the Sidr affected fishers during July-October 2008. The fishers are already involved in fishing and their livelihood has recovered very early. The original target was fully achieved by October 2008. Later on we observed higher demand for the boat and net. Since this component is regarded as a quick livelihoods recovery, BRAC revised the target and planned to distribute 2,550 boats with net by end of the project. In October 2009, BRAC provided 635 boats and nets to the fishers with a cumulative of 2,550 boats, which is 100% of the target (Figure 2.2).

Rehabilitation of social forestry

In Sidr affected areas, the women work in their own small nurseries by cultivating seedlings in order to support their families. The money that is generated by selling these plants support acquiring basic necessities and accumulation of small savings by women members. The trees within the homestead also helped protecting the environment. SIDR dealt a heavy blow to social forestry and women's earnings from raising nurseries. BRAG gave a grant of Tk. 4,000 per person to the affected women to prepare land, purchase fertilizer and seeds to grow their nurseries.

In February 2009, BRAG were able to fulfill the target of small nurseries (Figure 2.2). Some nursery owners will be able to sell saplings of fruit and timber trees during the ensuing monsoon, and within six to twelve months other nursery owners will be able to sell their plant seedlings, which in turn will support their families, creating a positive impact within the environment.

Replant fallen trees in homesteads

A huge number of households has experienced tree fall during cyclone SIDR. The cyclone destroyed homestead trees that served as sources of fruits, fire wood, protection, shelter and income, while having a positive impact on the local environment. BRAG selected the affected households and following the selection of a large number of affected homesteads, the beneficiaries received a number of good quality seedlings (fruit and timber) up to a maximum value of Tk 300 per household

to replant the fallen trees. The seedlings were procured in bulk from local tree nurseries and BRAC nurseries following the BRAC procurement rules. Beneficiaries were to a certain degree allowed to choose their preferred type of fruit or timber trees, avoiding thereby replanting problematic tree species in their homestead. Since the winter season is not an ideal time to tree plantation, we decided to rejuvenate the tree plantation program in April 2009 at the on-set of monsoon. In October 2009, BRAC provided money to 585 families for purchasing 10-14 saplings each to plant those in their homestead areas. The cumulative number of families provided with saplings up to the month October 2009 was 200,023 and it was more than the target (200,000 families).

ii. Non-agriculture-based livelihoods rehabilitation

Replace destroyed rickshaw-vans

BRAC tried to restore the livelihoods of the poor rickshaw-van pullers whose rickshaw vans were destroyed during the SIDR. Following the selection of affected rickshaw van dependent households, the female members were provided with a new rickshaw van. The husband/son of the beneficiaries will 'rent' the rickshaw-van and has to pay the female 'owner' at least Tk 20-30 per day. Rickshaw- vans were procured locally from reliable manufacturers/dealers, following the BRAC procurement rules. In October 2009, BRAC provided 14 rickshaw-vans (Table 2.2) with a cumulative value of 5,000 rickshaw-vans (100% of the target-Figure 2.2) to wife/mother of the poor rickshaw-van pullers to rehabilitate their livelihood. Many beneficiaries have restored and some are trying to regain their pre-Sidr livelihoods with the income from the rickshaw-van. This component also considered as one of the very quick livelihoods recovery support for the disaster victims.

Rehabilitate destroyed small businesses

Small business, destroyed by the Sidr was replaced by BRAC as part of the livelihood improvement program of the SIDR victims. Following the selection of affected small business owners, the beneficiaries were provided with Tk 4,000 cash per beneficiary. Through an intense follow-up it was ensured that this amount was used to rebuild, re-equip or re-stock the small business. BRAC completed the target of distribution of small business by end of August 2009. But still BRAC is monitoring the performance or activities of the beneficiaries so they can maximize their benefit.

Cash for work

Cash for work was mobilized to replace or repair important community-level public social infrastructures, damaged by cyclone SIDR and possibly damaged further by the following monsoon season, in close coordination with local government officials. BRAC carried out the cash for work program with the objective of creating employment opportunities that would provide additional income for vulnerable households and restore the public rural infrastructures with an average wage of Tk. 100 per person per day. The beneficiaries of the "Cash for Work" component were mainly poor women affected by the cyclone SIDR. The monsoon and the rice cultivation hindered the activities under the cash for work program, restored fully in January 2009 after the harvest of rice and recession of water from the land surface. About 4,600 beneficiaries comprised of 460 groups (10 beneficiaries per group) were involved in cash for work in every month. Although BRAC fulfilled the target of cash for work programme in August 2009, BRAC had to do some road repairing works (846 person-days) that was partly damaged during monsoon and tidal surge.

2.3.6 Structural measures: Core house and cyclone shelters

As of 31 December 2008 BRAC completed 400 core house/shelters. Core shelter was designed by the Department of Architecture of BRAC University, Bangladesh. The main features of the core shelter include a living room of 15 feet x 5 feet. The space provision complies with the SPHERE indicator of 3.5 square meters for initially covered area per person. The space provided can accommodate 6 persons according to the SPHERE standard. Total cost of one core shelter/house was around BDT 45,000 to 47,000. Most of the beneficiaries were satisfied with the core shelter. As per plan, BRAC constructed 17 cyclone shelters as of October 2009.

2.3.7 Outcome

It was observed that in boat-net, rickshaw-van and in small business, the rehabilitation of the livelihoods to the pre-SIDR situation follows almost immediately after the reception of the grant/equipment. Cow and goat provide rehabilitation at late. Yet many beneficiaries who received cows and goats have had the kids from cow and goat, some of them have started selling milk after home consumption to rehabilitate their livelihoods. The components rice, maize, vegetables and betel leaf yielding

short-term rehabilitation. But for the homestead plantation, the impact will appear in the long-term period. Some of the important outcomes are discussed below:

Rice: Rice is the main staple for the people of Bangladesh. The SIDR affected area was not different from this. But, the attack of SIDR destructed every hope of people as well as lots of land of rice. For remedy, BRAC provided seeds, fertilizer, irrigation and tillage supports for rice cultivation through financial assistance. The seeds were higher yielding than the conventional one. As a consequence, 15,295 acres of land were cultivated by the farmers in the SIDR affected areas in Aman season, 2008. Rice harvesting provided a dramatically quick rehabilitation for the affected poor people.

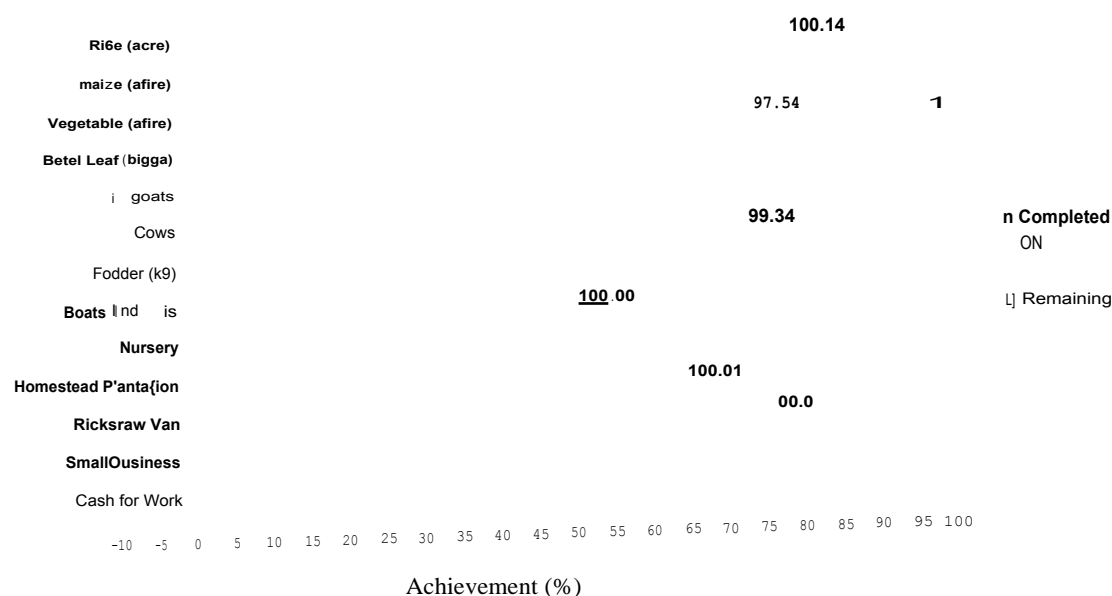
Vegetable: Most of the house premises are good places for vegetable cultivation. BRAC provided some funds and other supports to women for restoring their livelihoods through vegetable cultivation. The beneficiaries produced egg plant, bitter gourd, spinach, squash, radish, carrots, pumpkin, cauliflower and cabbage. These vegetables produce an early income which was helpful for them to restore their pre-Sidr livelihoods. They already earned Taka 7,000-25,000 per season by vegetable cultivation. An example is given below:

Rickshaw-van: Rickshaw-van is a popular vehicle to transport goods and rural people especially in the southern part of Bangladesh. Cyclone Sidr destroyed many rickshaw-vans either by falling trees or by collapsing houses. Since all the rickshaw-van pullers are landless and poor, they fall in trouble to run their family. BRAC came forward to help the distressed community. BRAC provided rickshaw-vans to the poor women. As women are unused to drive, their husband or son is driving the small vehicles. As a consequence, they are earning Taka 150 to 200 per day. From this they are saving Taka 25 to 50 daily. This savings will be used to repair and maintenance, sudden need or to other needful situation. This also provided a quick income for them. As soon as they get the vehicles, they started income generation.

Table 2.2: Achievements of the project during the reporting period (October 2009).

Activities	Project period	Male/Female	Achievements by October 2009		Comments
			Beneficiaries/ Amount	Area covered / No. distributed	
Rice	70,000 ac	M/F	-	275 ac	Completed
Maize	17,500 ac	M/F	-	-	Completed
Vegetable	32,000 ac	M/F	6,546	162	On-going
Betel Leaf	3,000 bigha	M/F	-	-	Completed
Goat	4,000 no	F	-	-	Completed
Cow	16,000 no	F	2,334	2334 cow	On-going
Fodder seed	170 kg	M/F	-	-	Completed
Boat and Net	2,550 no	M/F	635	635 boat-net	Completed
1 units yr	2,000 no	F	-	-	Completed
Homestead Plantation	200,000 homestead	F	585	7020 seedlings	Completed
ticksha v-van	5,000 no	F	14	14 no	Completed
Small Business	8,040 no	F	-	-	Completed
Wage for Work	730,981 person-days	M/F	-	- person-days	Completed

Figure 2.2: Achievement statistics at a glance as per revised plan (second revision).



2.3.8 External cooperation : An implementation device

BRAG coordinated very closely with the Bangladesh Government and local authorities in implementing its post-SIDR rehabilitation programmes. BRAG received strong support from local offices of the government particularly from the Union Parishad (lowest level of the local government body), office of the Upazila Nirbahi Officer and local offices of the Department of Agricultural Extension and Department of Livestock which was instrumental in mobilising farmers to accept BRAG initiatives by attending community meetings and providing education. Local government officials ensured transparency in program implementation and proper targeting in the beneficiary selection process and countersigned the list of beneficiaries. Local government officials also participated in ceremonies during handing over of assets to the beneficiaries.

2.4 Role of Muslim Aid in cyclone SIDR disaster **management with regard to response, recovery, and rehabilitation**

Focus

- **Emergency response and recovery**
- ▼ **Rehabilitation**
 - i. **Shelter and employment**
 - ii. **Agricultural rehabilitation**
 - iii. **Educational support**

Muslim Aid is UK based non-governmental development organization. Muslim Aid Bangladesh Field Office was set up in 1991 following the devastating cyclones of that year. It initiated relief and rehabilitation projects for the victims of the tidal surge in 1991. Over the years which followed Muslim Aid covered all fields of humanitarian relief and development in Bangladesh. Today, it engaged the services of 40 satellite offices set up throughout the country, with 46 head office staff and 498 staff members and volunteers working at field level.

Muslim Aid's Bangladesh Field Office is currently implementing a number of programs at grassroots level throughout the country, covering over 50 out of 64 districts. A few of these major programs include: education, health care and health awareness, micro-credit for poverty alleviation, water and sanitation, emergency relief and rehabilitation, Orphan care and destitute women's rehabilitation program.

2.4.1 Emergency response and recovery (in Sidr disaster management)

Just after cyclone Sidr, Muslim Aid immediately allocated £215,000 for emergency aid and then launched a fund raising campaign to raise £3 million for relief and rehabilitation activities in three of the four worst affected **areas** (Bagerhat, Patuakhali, and Pirojpur). Donors' response was extra special and Muslim Aid was able to reach over half a million pounds in only two weeks. It was an indication of donors' commitment to the people of Bangladesh as well as demonstrating their faith to Muslim Aid to deliver emergency relief to those who needed it most. It should be

mentioned that emergency response and recovery activities were implemented through 150 field staff and a network of more than 200 volunteers. During its emergency operations, Muslim Aid provided 236,000 families with safe drinking water together with jerry cans and purification tablets, as well as distributing food to more than 30,000 families and non-food items to 25,000 families. More than 35,000 patients received emergency health support and around 1,000 families received cash for work support. About 2,000 families who were affected most got sanitary latrines from Muslim Aid. Another worst affected 2,000 families were provided with construction materials to repair their homes in Bagerhat, Patuakhali, and Pirojpur in cooperation with The European Commission for Humanitarian Aid (ECHO) on emergency basis.

2.4.2 Rehabilitation

i. Shelter and employment

About 1,000 permanent core shelters were provided in Bagerhat and Patuakhali with community support and Channel S fundraising support. A total of 800 transitional shelters were constructed in Bagerhat, Patuakhali, and Pirojpur in cooperation with ECHO. Semi permanent shelters were for 100 survivors. In partnership with ECHO, Muslim Aid provided 8,033 households of Sidr victims in Sharankhola, Nazirpur, and Mirzagonj upazilas of Bagerhat, Pirojpur, and Patuakhali districts with cash for work. The work involved filling earth for educational institutions and mosques, digging canals, repairing roads and dams.

ii. Agricultural support

Muslim Aid in cooperation with ECHO provided support to 100,000 families through agricultural and small business. In partnership with the UN Food and Agriculture Organization (UN-FAO), and the Bangladesh Department of Agriculture Extension (DAE), rice seeds and other field crops and fertilizers were provided to around 60,000 farm families of the Bagerhat and Patuakhali districts. Vegetable seeds and fertilizers were also distributed to another 5,000 households. A total of 400 cows and 500 goats were distributed among needy families along with food aid for 6 months.

iii. Educational support

Muslim Aid contributed to continuing education through repairing a number of schools in Bagerhat and providing with basic school supplies such as text books, school bags, school uniforms, pencils, and notebooks for 2,000 students as well as tables, desks, and black boards. Nine mosques were repaired in Bagerhat and five in Patuakhali.

2.5 Role of CARE-B, BRAC, and Muslim Aid Bangladesh in Sidr disaster management: A matrix with comparative scenario

Involvement with disaster management strategy	CARE-B	BRAC	Muslim Aid-B
Early warning message dissemination	Not maintained	Not maintained	Not maintained
Emergency response with food, dry food, and non-food items	<ul style="list-style-type: none"> - Needs assessment: Conducted partially - Area coverage: Partial - Beneficiaries coverage: Limited - Activities started: Somewhat delayed - Frequency of service: Infrequent - Monitoring: Strong but irregular 	<ul style="list-style-type: none"> - Needs assessment: Conducted extensively - Area coverage: Full - Beneficiaries coverage: Adequate - Activities started: On time - Frequency of service: Frequently - Monitoring: Strong and regular 	<ul style="list-style-type: none"> - Needs assessment: Conducted partially - Area coverage: Partial - Beneficiaries coverage: Limited - Activities started: In good time - Frequency of service: Infrequent - Monitoring: Poor and irregular
Emergency response with safe water, sanitation, and treatment	<ul style="list-style-type: none"> - Needs assessment: Conducted partially - Area coverage: Partial - Beneficiaries coverage: Limited - Activities started: Somewhat delayed - Frequency of service: Infrequent - Monitoring: Strong but irregular 	<ul style="list-style-type: none"> - Needs assessment: Conducted extensively - Area coverage: Full - Beneficiaries coverage: Adequate - Activities started: On time - Frequency of service: Frequently - Monitoring: Strong and regular 	<ul style="list-style-type: none"> - Needs assessment: Conducted partially - Area coverage: Partial - Beneficiaries coverage: Limited - Activities started: Timely - Frequency of service: Infrequent - Monitoring: Poor and irregular

	CARE-B	BRAC	Muslim Aid-B
<p>Involvement with disaster management strategy</p> <p>Recovery: Houses, roads, educational and religious institutions</p>	<p>- Needs assessment: Conducted partially</p> <p>- Area coverage: Partial</p> <p>- Beneficiaries coverage: Limited</p> <p>- Activities started: Timely</p> <p>- Monitoring: Strong but irregular</p>	<p>- Needs assessment: Conducted extensively</p> <p>- Area coverage: Full</p> <p>- Beneficiaries coverage: Adequate</p> <p>- Activities started: On time</p> <p>- Monitoring: Strong and <u>regular</u></p>	<p>- Needs assessment: Conducted partially</p> <p>- Area coverage: Partial</p> <p>- Beneficiaries coverage: Limited</p> <p>- Activities started: Somewhat delayed</p> <p>- Monitoring: Poor and irregular</p>
<p><u>Rehabilitation</u></p> <p>Providing shelter</p>	<p>- Needs assessment: Conducted partially</p> <p>- Area coverage: Partial</p> <p>- Beneficiaries coverage: Limited</p> <p>- Activities started: Timely</p> <p>- Monitoring: Strong but irregular</p>	<p>- Needs assessment: Conducted extensively</p> <p>- Area coverage: Full</p> <p>- Beneficiaries coverage: Adequate</p> <p>- Activities started: On time</p> <p>- Monitoring: <u>Strong and regular</u></p>	<p>- Needs assessment: Conducted partially</p> <p>- Area coverage: Partial</p> <p>- Beneficiaries coverage: Limited</p> <p>- Activities started: Somewhat delayed</p> <p>- Monitoring: Poor and irregular</p>
<p>Employment generation</p>	<p>- Needs assessment: Narrow</p> <p>- Area coverage: Partial</p> <p>- Beneficiaries coverage: Limited</p> <p>- Activities started: Timely</p> <p>- Duration: Short-term</p> <p>- Monitoring: Strong and regular but short-term</p>	<p>- Needs assessment: Extensive</p> <p>- Area coverage: Full</p> <p>- Beneficiaries coverage: Adequate</p> <p>- Activities started: On time</p> <p>- Duration: Long-term</p> <p>- Monitoring: Strong, regular, and long-term</p>	<p>- Needs assessment: Narrow</p> <p>- Area coverage: Partial</p> <p>- Beneficiaries coverage: Very limited</p> <p>- Activities started: Somewhat delayed</p> <p>- Duration: Short-time</p> <p>- Monitoring: Strong and regular but short-term</p>

Involvement with disaster management strategy	CARE-B	BRAC	Muslim Aid-B
Agricultural rehabilitation focusing means of production	<ul style="list-style-type: none"> - Needs assessment: Narrow - Area coverage: Partial - Beneficiaries coverage: Inadequate - Activities started: Delayed - Duration: Short-term - Monitoring: Strong but irregular and short-term 	<ul style="list-style-type: none"> - Needs assessment: Extensive - Area coverage: Full - Beneficiaries coverage: Adequate - Activities started: On time - Duration: Long-term - Monitoring: Strong, regular, and long-term 	<ul style="list-style-type: none"> - Needs assessment: Narrow - Area coverage: Partial - Beneficiaries coverage: Limited - Activities started: Somewhat delayed - Duration: Short-time - Monitoring: Strong but irregular and short-term - No needs assessment and no noteworthy coverage
Reconstruction focusing embankment and roads	<ul style="list-style-type: none"> - Needs assessment: Narrow - Area coverage: Few - Beneficiaries protected: Inadequate - Activities started: Delayed - Monitoring: Strong but irregular 	<ul style="list-style-type: none"> - Needs assessment: Narrow - Area coverage: Very limited - Beneficiaries protected: Inadequate - Activities started: Delayed - Monitoring: Strong and regular 	<ul style="list-style-type: none"> - No needs assessment and no noteworthy performance
Mitigation focusing construction of cyclone shelter	<ul style="list-style-type: none"> - Needs assessment: Broadly - Area coverage: Few - Beneficiaries protected: Inadequate - Monitoring: Strong but regular 	<ul style="list-style-type: none"> - Needs assessment: Extensive - Area coverage: Few - Beneficiaries protected: Inadequate - Monitoring: Strong but regular 	<ul style="list-style-type: none"> - No needs assessment and no noteworthy performance
Awareness raising	<ul style="list-style-type: none"> - Needs assessment: Narrow - Area coverage: Few - Beneficiaries coverage: Small scale - Activities started: Delayed - Monitoring: Strong but irregular 	<ul style="list-style-type: none"> - Needs assessment: Extensive - Area coverage: Full - Beneficiaries coverage: Large scale - Activities started: Timely - Monitoring: Strong and regular 	<ul style="list-style-type: none"> - Needs assessment: Narrow - Area coverage: Partial - Beneficiaries coverage: Small scale - Activities started: Timely - Monitoring: <u>Poor</u>

2.6 Problems faced by the NGOs during response, recovery, and rehabilitation to disaster management

It was reported over the periods that NGOs faced some common problems during relief and rehabilitation programs to especially cyclonic disaster management. Most of NGOs who were involved with emergency response and recovery activities to cyclone Sidr disaster management mentioned some problems they faced. These are as follows:

- i. It was found that there was less opportunity to exchange views among development agencies to make effective plan and ensure maximum services to the affected people. Combined and integrated efforts needed to make the response and recovery activities faster and effective. To ensure this, common forum among NGOs, government at different levels, and other different development organizations should be maintained on regular basis to run the program well.
- ii. Lack of co-ordination among different stakeholders during emergency response was one to major problems. Disaster management operation was greatly affected due to lack of proper coordination. Effective coordination among NGOs and government at different levels including different political organizations is needed to ensure maximum utilization of the limited resources
- iii. During emergency period it was hard to maintain accurate jurisdiction of work among NGOs and other development agencies including government at different levels. In all situations, the role of each development agency should be clearly defined to ensure effective resource mobilization and thus, ensure proper service to the right person.
- iv. **Lack of trust and respect to NGOs involved with relief activities was another major constraint. In most cases, officers of civil and military administration suffered from ego-centric complexities. These created rigidity and hindered smooth functioning. So, mutual respect needed must for better, faster, and effective coverage.**

Chapter 3

LEARNING

The involvement of local communities is needed for effective needs assessment.

So, mechanisms need to be developed so that communities can participate in needs assessment during the relief and recovery phases of a sudden on-set disaster

,W Long term with large-scale employment programs such as food for work or cash for work are required during the relief and recovery phases to re-build devastated communities and allow households to make their own decisions on how best to restore their lives and livelihoods.

- Reconstruction or renewal of shelter/housing is a major need after cyclonic hazard and during cyclonic disaster. NGOs should have a strategy on shelter so that they can advise communities on how to address shelter needs effectively.

It is clear that there was a significant role of NGOs towards cyclonic disaster management over the periods. But it is not clear what was their effort compared to the standards. So, the National standards for humanitarian actions are required for Bangladesh to ensure the quality and quantity of relief being provided.

- ie Cash for work is the most effective way of targeting the most vulnerable households, as only the poorest of the poor participate. CFW was also very effective as households were allowed to make their own choices as to what materials or items to purchase.

NGOs' Emergency Preparedness Plan should be completed on a priority basis so that when the next emergency happens the updated EPP is available

- r There are no clear and situational operational guidelines. Operational guidelines are needed to run the emergency response, recovery, and rehabilitation activities well.

- There is some lack of trust on the experience, knowledge, expertise, and even honesty of the members of the union parishad. But it is no doubt that members of the UP know their local problems, crisis well compared to others. If they are handled and involved with relief and rehabilitation activities properly, maximum output/affected people will be ensured with right services

Chapter 4

RECOMMENDATION

Disaster Management	How to implement?
Ensure effective mechanism of warning message dissemination to the vulnerable areas	<ul style="list-style-type: none"> - Determine working area - Divide working areas into different
Ensure proper needs assessment immediately after cyclonic hazard	<ul style="list-style-type: none"> - Provide responsibility of proper dissemination among volunteers cluster wise - Do quick visit to the affected areas - Preparing disaster maps of the affected areas through PRA - Determining emergency needs, mid-term needs, and long term needs through PRA
Ensure skilled human force considering gender issue	<ul style="list-style-type: none"> - Enhance existing human force through recruitment and training urgently - Ensure sufficient number of female volunteers
Ensure reasonable fund	<ul style="list-style-type: none"> - Distribution of assignments - Monitoring of the human force - Preparing budget as per needs assessment - Review existing fund capacity - Raising reasonable fund through both internal and external resource mobilization
Ensure effective utilization of fund in cooperation with affected community people	<ul style="list-style-type: none"> - Preparing resource utilization plan cluster wise in involvement with affected people - Implementation of the plan in involvement with affected people - Ensure regular monitoring
Ensure transparency of the aid activities to donors, government, and also beneficiaries	<ul style="list-style-type: none"> - Maintain SMART based action plan where, S for specific, M for measurable, A for attainable, R for reasonable, and T for time frame of the actions - Maintain evidence of the activities: Human and non-human - Ensure independent monitoring - Ensure independent evaluation

Chapter 5

CONCLUSION

Based on different study findings, it is clear that the NGOs were focused in playing key roles in the immediate aftermath of disasters by extending assistance in emergency response, rescue and first aid, sanitation and hygiene, damage assessment and assistance to external agencies bringing relief materials. During the post disaster phase, the NGOs played important roles by providing technical and material support for safe construction, revival of educational institutions and restoration of means of livelihood and assist the government in monitoring the pace of implementation for various reconstruction and recovery programs. Study showed that about 20% of the assistance to emergency response, recovery, and rehabilitation during 1970 cyclone disaster was ensured by NGOs both national and internationals and it was more than 40% in 1991 cyclone disasters. The involvement of NGOs in Sidr disaster management was highly significant. During Sidr disaster, NGOs were involved in search and rescue of the survivors to meet their basic needs including protection, shelter, safe drinking water, food, medical and social care, clothing and other basic necessities of life. Government of Bangladesh in cooperation with NGOs was able to include most of the affected households in Sidr rehabilitation activities. Presently, NGOs are giving emphasis to work on preventive measures as a strategy of disaster risk reduction.

However, to maximize the NGOs' contribution to disaster management needs effective response program through effective participation of the concerned stakeholders. NGOs' planning and methods to disaster management should be situational and reviewed from time to time as there is no any best and fixed method to handle the crisis for all the times. A wide variety of planning, method, and behavior might be appropriate to particular situation. Which would be the most appropriate planning, method, and behavior depends on situation. So, there should be a changing pattern of behavior in NGOs' strategic plan to maximize its contribution to disaster management.

REFERENCES

- Abed, F. H., Chowdhury, A. M. R. (1989). The role of NGOs **in international** health. In M. Reich & E. Marui (Eds.), *International cooperation in health*. Dover, Mass.: Auburn House Publishing Company.
- Ahmed, R., Haggblade, S. (2000). Introduction. In R. Ahmed, S. Haggblade & T.-e.-E. Chowdhury (Eds.), *Out of the Shadow of Famine: evolving food markets and food policy in Bangladesh*. Washington : **International** Food Policy Research Institute.
- Asian Development Bank. (1999). A Study of NGOs: Bangladesh.
- Begum, A. (2004). NGO Activities in Rural Bangladesh: Beneficiary perceptions about the impacts. In S. Hasan & M. Lyons (Eds.), *Social Capital in Asian Sustainable Development Management* (pp. 101-112). **Hauppauge**, NY: Nova Science Publishers Inc.
- Blair, H. (2005). Civil society and pro-poor initiatives **in rural** Bangladesh: finding a workable strategy. *World Development*, 33(6), 921-936.
- BRAC. (2004). *BRAC: Annual Report*. Dhaka: BRAC.
- Cyclone Preparedness Programme (2007). **International** Telecommunication Union. <http://www.itu.int/ITU->
- Edwards, M. (1999). NGO Performance - What Breeds Success? New Evidence from South Asia. *World Development*, 27(2), 361-374.
- Fernando, J. L., Devine, J. (2003). The paradox of sustainability: Reflections on NGOs in Bangladesh. *Annals of the American Academy of Political and Social Science*, 590(2), 227-242.
- Garry, M. L. (1999). *A People's History of Development: 25 Years in Northern Bangladesh*. Dhaka: The University Press.
- Halloran, R. (1970). "Pakistan Storm Relief a Vast Problem". New York Times, 36. Schanberg, Sydney (1970-11-29). "People Still Dying **Because** Of Inadequate Relief Job". New York Times
- Halley, J. (1999). Ladybirds, missionaries and NGOs. Voluntary organizations and cooperatives in 50 years of development: a historical perspective on future challenges. *Public Administration and Development*, 19(5), 467-485.
- Joint Typhoon Warning Center- JTWC (1970). "Western North Pacific Tropical Storms 1970" (PDF). Annual Typhoon Report 1970.

Leaf, M. (1997). Local control **versus** technocracy: The Bangladesh Flood Response Study. *Journal of International Affairs*, 51(1), 179-200.

McKinley, J. (1979). *Death to Life: Bangladesh*. **Dhaka**: Immanuel Baptist Church.

Nobusue, K. (2002). **Bangladesh**: A large NGO sector support by foreign donors. In S. Shigetomi (Ed.), *The State and NGOs: Perspective from Asia* (pp. 34-56). **Singapore**: Institute of Southeast Asian Studies (ISEAS).

UNICEF (2006) "Sixty Years for Children".
http://www.unicef.org/publications/files/1946-2006_Sixty_Years_for_Children.
Retrieved on 16 April 2006.

Stiles, K. (2002). **International Support for NGOs in Bangladesh**: Some Unintended Consequences. *World Development*, 30(5), 835-846.

Tod, I (2008). **Independent evaluation of CARE-B's cyclone Sidr response programme**. **Dhaka**

Wood, G. D. (1994). *Bangladesh: whose ideas, whose interests?* **Dhaka**: University Press.

World Bank. (2006). *The economics and governance of Non Governmental Organizations (NGOs) in Bangladesh* (No. 11). **Dhaka**: World Bank.

BIBLIOGRAPHIC REFERENCES

- Ahmad, M. M. (2001). The State, Laws and Non-Governmental Organizations (NGOs) in Bangladesh. *International Journal of Not for-Profit Law*, 3(3).
- Anon. (2003). Federation of NGOs in Bangladesh launched.
- Associated Press. (2006, 14/10/2006). Credit for poor earns banker Nobel prize. *The Australian*, p. 17.
- AusAID. (2006). *Australian Aid: Promoting Growth and Stability*. Canberra: Australian Government.
- Bernier, F. (1891). *Travels in the Mogul Empire: 1656-68*. London.
- Blair, H. (1985). Participation public policy, political economy and development in rural Bangladesh. *World Development*, 13(12), 1231-47.
- BRAC. (1983). *The Net: Power structure in ten villages*. Dhaka: Bangladesh Rural Advancement Committee (BRAC).
- Chambers, R. (1987). *Rural development: putting the last first*. Harlow, Essex: Longman.
- Chaudhury, S. (2002). *European Trade, Influx of Silver and Prices in Bengal*. Paper presented at the XIIIth International Economic History Congress, Buenos Aires 2002. Retrieved 16 May, 2006. from <http://eh.net/XiliCongress/>.
- Chen, M. A. (1986). *A Quiet Revolution: Women in transition in rural Bangladesh*. Dhaka: BRAC Prokashana.
- Chowdhury, A. M. R., Alam, M. A. (1997). BRAC's poverty alleviation efforts: A quarter century of experiences and learning. In G. D. Wood & I. Sharif (Eds.), *Who needs credit? Poverty and finance in Bangladesh* (pp. 171-202). Dhaka: University Press.
- Counts, A. (1996). *Give us credit: how small loans today can shape our tomorrow*. New Delhi: Research Press.
- Flavio, J. M. (1974). *My friends in the barrios*. Quezon City, Philippines: New Day.
- Freire, P. (1970). *Pedagogy of the Oppressed* (Continuum ed.). New York: Continuum.
- Gono Unnayan Prochesta. (1999). Gono Unnayan Prochesta Bangladesh. *ESCAP Virtual Conference*. http://unescap.org/drpad/ve/conference/ex_56_hup.htm.

- Government of Bangladesh . (2005). *Poverty Reduction Strategy Paper : Unlocking the potential: National Strategy for accelerated poverty reduction*. Dhaka: General Economics Division, Planning Commission.
- Haq, E. (Ed.). (1979). *Meet Bangladesh* (First ed.). Dhaka: Department of Films and Publications.
- Hasan, S. (1993). Voluntarism and rural development in Bangladesh. *Asian Journal of Public Administration*, 15(1), 82-101.
- Hashemi, S. M., & Morshed, L. (1997). Grameen Bank: A case study. In G. D. Wood & I. Sharif (Eds.), *Who needs credit ? Poverty and , Inance in Bangladesh* (pp. 227). Dhaka: University Press.
- Mahrnood, K. (Ed.). (1987). *Meet Bangladesh* (Third ed.). Dhaka: Department of Films and Publications.
- Maloney, C., & Ahmed, A. B. S. (1988). *Rural savings and credit in Bangladesh*. Dhaka: University Press.
- Morduch, J. (2000). The Microfinance Schism . *World Development*, 28(4), 617-629.
- Netherlands Ministry of Foreign Affairs. (1998). *Evaluation of Netherlands funded NGOs in Bangladesh, 1972-1996*. The Hague: Netherlands Ministry of Foreign Affairs, Policy and Operations Evaluation Department (IOB).
- Novak, J. J. (1994). *Bangladesh: Reflections on the water*. Dhaka: The University Press.
- Pettitt, B. (2002). *Still trying to save the world ? a critical analysis of Oxfam Community Aid Abroad to the challenge of international development*. Unpublished Ph.D., Murdoch University, Murdoch.
- RDRS. (2005). *Annual Report 2004*. Rangpur, Bangladesh: RDRS Bangladesh.
- RDRS. (2006). *Annual Report 2005*. Rangpur, Bangladesh: RDRS Bangladesh.
- Saifullah, A. K. M. (2001). *NGOs Capacity in Development Management : experience from Bangladesh*. Tampere University, Tampere, Finland.
- Schumacher, E. F. (1973). *Small is beautiful. a study of economics as if' people mattered* (1993 ed.). London: Vintage.
- Sider, R. J. (1978). *Rich Christians in an age of hunger*. Sevenoaks, Kent : Hodder.
- Sine, T. (Ed.). (1983). *The Church in response to human need*. Wheaton Ill.: Missions Advanced Research and Communication Centre.

- Van Rooy, A. (2001). Good news! You may be out of a job: the past and future 50 years for Northern Ireland. In D. Eade & E. Ligtneringent(Eds.), *Debating Development* (pp & . 19-43). kstone, Dorset: Oxfam GB.
- Robinson, M. (1998). Out of the ivory tower: Civil society and the aid system. In A. van Rooy (Ed.), *Civil Society and the Aid Industry* (pp. 31-70). 1998: Earthscan.
- Wallis, J. (1981). *The call to conversion*. Tring, Herts UK: Lion Publishing.
- White, S. C. (1999). NGOs, Civil Society, and the State in Bangladesh: The politics of representing the poor. *Development and Change*, 30, 307-326.
- Wood, G. D., Sharif, I. (Eds.). (1997). *Who needs credit? Poverty and finance in Bangladesh*. Dhaka: University Press.
- World Bank. (2005). *The economics and governance of Non Governmental Organizations (NGOs) in Bangladesh* (No. 11). Dhaka: World Bank.